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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,737	03/08/2004	Frank Pan	USP2355A-FP	2501
30265	7590	12/06/2005	EXAMINER	
RAYMOND Y. CHAN 108 N. YNEZ AVE., SUITE 128 MONTEREY PARK, CA 91754			LE, KHANH H	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

ET

<b>Office Action Summary</b>	<b>Application No.</b> 10/796,737	<b>Applicant(s)</b> PAN, FRANK	
	<b>Examiner</b> Khanh H. Le	<b>Art Unit</b> 2875	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 2 and 11 are objected to because of the following informalities:

On line 1, "claim 2" should be change to "claim 1".

Claim 11 lacks antecedent for "said illuminator" on line 5. In addition, claim 11 is missing a period.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Stopa et al. (US Patent No. 6,641,284).

4. With respect to claim 1, Stopa discloses a LED illuminating module having:  
a supporting frame (14) having a top surface (unnumbered) and an elongated reflective channel (10) indented on the top surface and defining a peripheral reflective

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wall (unnumbered) inclinedly extended from a bottom wall (40) of the reflective channel;  
and

an illumination unit comprising a light circuit (40) supported by the supporting frame (14) and a plurality of illuminators (42) which are electrically mounted to the light circuit (40) and spacedly aligned along the reflective channel (10), wherein each of the illuminators (42) forms as a point of light source for radially emitting light towards the reflective wall, such that the reflective wall is adapted for reflectively accumulating the lights of the illuminators (42) within the reflective channel (10), so as to merge the points of light source to form a line of light source along the reflective channel.

5. With respect to claim 2, Stopa discloses the reflective wall (unnumbered) of the LED illuminating module is continuously extended to surround the reflective channel (10) as a peripheral sidewall thereof to reflectively accumulate said lights of the illuminators (42) within the reflective channel (10).

6. With respect to claims 3 and 4, Stopa discloses the reflective wall (unnumbered) of the LED illuminating module has a reflective inclination angle corresponding with a projecting angle of each of the illuminators (42) (Col. 3, lines 31-35).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Stopa et al. (US Patent No. 6,641,284) in view of Kiraly et al. (US Patent No.

6,880,952).

9. With respect to claims 5-7, Stopa discloses the LED illuminating module having a reflector (10) with a linear parabolic shape in the channel section, and parabolic dish ends. Therefore, Stopa does not teach the exact degree of the inclination angle of the claimed reflector.

Kiraly teaches a reflector for a LED illuminating module having an angle of  $100^{\circ}$  with respect to the bottom wall of the reflective channel to optimize the illumination intensity of the LED since the LEDs typically emit a wide angle of illumination ( $80^{\circ}$  is the bracket angle, therefore, the reflective angle is  $100^{\circ}$ , Col. 6, lines 16-17).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to change the linear parabolic shape reflector of Stopa with a reflector that has a flat surface and inclined at  $100^{\circ}$  with respect to the bottom wall of the reflective channel, as taught by Kiraly, so that the illumination intensity of the LED illuminating module can be optimized.

10. Claims 8-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Stopa et al. (US Patent No. 6,641,284) and Kiraly et al. (US Patent No. 6,880,952) as

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applied to claims 5-7 above, and further in view of Roller et al. (US Patent No. 5,934,798).

11. With respect to claims 8-10, Stopa teaches the bottom wall (40) of the reflective channel (14) having a flat surface, however the bottom wall of the reflective channel does not have a reflective surface.

Roller teaches that a reflector layer may be used to conceal the circuit board and enhance the light output (Col. 2, lines 5-8).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to add a reflector layer to the bottom surface of the LED illuminating module of Stopa, as taught by Roller, so the circuit board can be concealed and the light output can be enhanced.

12. With respect to claims 11-14, Stopa teaches each of the illuminators (42) is spacedly supported at the housing (14 and 40) to electrically connect with the light circuit (40). Stopa does not teach a head portion of the illuminator is outwardly protruded from the top surface of the supporting frame, and Stopa does not teach the LED illuminating module is environmentally sealed.

Roller teaches that the head portion of the illuminator (12) is outwardly protruded from the top surface of the supporting frame (28) (see figure 6), and the LED illuminating module is sealed to prevent entrance of water (Col. 2, lines 31-32).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to have the illuminator outwardly protruded from the top surface of the supporting frame, and sealed as taught by Roller, so that the circuit board in Stopa's LED illuminating module can be protected from entrance of water and also more visible.

13. With respect to claims 15-18, Stopa discloses the supporting frame (14) of the LED illuminating module having a light reflective layer coated on the peripheral side wall but lacks reflective surface on the bottom wall (40) of the reflective channel (10).

Roller teaches that a reflector layer (28) may be use to conceal the circuit board (14) and enhance the light output (Col. 2, lines 5-8).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to add a reflector layer to the bottom wall of the reflective channel of Stopa's the LED illuminating module, as taught by Roller, so that Stopa's circuit board can be concealed and the light output can be enhanced.

14. With respect to claims 19-22, Stopa does not disclose that the supporting frame has a plurality of guiding through holes spacedly formed on the top surface such that the head portions of the illuminator are protruded from the receiving cavity of the sealing housing to the reflective channel through the guiding though holes respectively so as to retain the illuminators in position.

Roller teaches a LED lamp having a reflector (28), that has a plurality of guiding through holes spacedly formed on a surface such that the head portions of the

illuminator are protruded from the receiving cavity of the sealing housing to the reflective channel through the guiding through holes respectively so as to retain the illuminators in position (Fig. 5 and 6), can conceal the circuit board and enhance the light output of the LEDs lamp (Col. 2, lines 32-35).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to include a reflector (24) that has a plurality of guiding through holes spacedly formed on the top surface, as taught by Roller, in the LED illuminating module of Stopa, so that the reflector can conceal the circuit board and enhance the light from the LEDs.

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ruskouski (US Patent No. 5,655,830) discloses an LED lamp that has LEDs protruded through apertures located at the bottom of a reflector channel that has sloping side walls (Figs. 9-12). You et al. (US Pub. No. 2005/0128744) discloses an LED reflector that has many similar elements to this invention. Figures 2a, 2b, and 2c show an LED assembly and figure 9a shows a reflector with indented and inclined reflecting channels.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh H. Le whose telephone number is (571) 272-8325. The examiner can normally be reached on Monday - Friday, 8:00 AM - 5:00 PM.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee Luebke can be reached on (571) 272-2009. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Khanh H. Le  
Examiner  
Art Unit 2875

KHL

  
RENEE LUEBKE  
PRIMARY EXAMINER